

20dec01 07:49:28 User259284 Session D1538.3

SYSTEM:OS

File 34:SciSearch(R) Cited Ref Sci 1990-2001/Dec W4
 (c) 2001 Inst for Sci Info

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
 (c) 1998 Inst for Sci Info

Set	Items	Description
S1	13	CR="BUSSE RF, 1999, V41, P1, MAGNET RESON MED":CR="BUSSE R-F, 2001, V45, P653, MAGNET RESON MED"
S2	20	CR="VANUIJEN CMJ, 1984, V1, P502, MAGN RESON MED":CR="VANUIJEN CMJ, 1984, V1, P502, MAGNET RESON MED"
S3	14	CR="SOUZA SP, 1988, V12, P1023, J COMPUT ASSIST TO":CR="SOUZA SP, 1988, V12, P1026, J COMPUT ASSIST TO"
S4	1	NMR()MOVIE/TI
S5	3	CR="MANSFIELD P, 1984, P295, 3RD P SMRM ANN M SAN" OR CR="MANSFIELD P, 1984, P295, 3RD SOC MAGN RES MED" OR CR="MANSFIELD P, 1984, V1, P295, MAG RES MED"
S6	49	S1:S3 OR S5
S7	427	DRIVEN()EQUILIBRIUM OR DEFT
S8	1705	FSE OR FAST()SPIN()ECHO
S9	5	6AND7
S10	5	6AND8
S11	3	9AND10
S12	4	S9:S10 NOT S11
S13	1	INTERACTIVE()FAST()SPIN()ECHO()IMAGING/TI
S14	1	DRIVEN()EQUILIBRIUM()RADIOFREQUENC???/TI
S15	1	SIMA/TI AND HADAMARD/TI
S16	4	S4 OR S13:S15
S17	275	CR="AGARD DA, 1989, V30, P353, METHOD CELL BIOL"
S18	4	CR="BUSSE RF, 1999, V41, P846, MAGNET RESON MED"
S19	75	CR="CARR HY, 1958, V112, P1693, PHYS REV"
S20	125	CR="CASTLEMAN KR, 1996, DIGITAL IMAGE PROCES"
S21	1	CR="CONOLLY S, 1987, TOPICAL C FAST MRI T"
S22	27	CR="DEBBINS JP, 1996, V36, P588, MAGNET RESON MED"
S23	81	CR="EDELMAN RR, 1986, V161, P125, RADIOLOGY"
S24	17	CR="ERNST O, 1997, V169, P1304, AM J ROENTGENOL"
S25	32	CR="FEINBERG DA, 1985, V156, P743, RADIOLOGY"
S26	73	CR="FEINBERG DA, 1986, V161, P527, RADIOLOGY"
S27	11	CR="GMITRO AF, 1996, V35, P734, MAGNET RESON MED"
S28	1	CR="GRIFFITH PR, 1978, P49, TRANSFORM TECHNIQUES"
S29	4	CR="GRYSPEERDT S, 1998, V171, P211, AM J ROENTGENO"
S30	577	CR="HENNIG J, 1986, V3, P823, MAGNET RESON MED"
S31	75	CR="HENNIG J, 1988, V78, P397, J MAGN RESON"
S32	213	CR="HINSHAW WS, 1976, V47, P3709, J APPL PHYS"
S33	2	CR="JOHNSON GA, 1986, V161, P254, RADIOLOGY P"
S34	49	CR="JOSEPH PM, 1985, V9, P651, J COMPUT ASSIST TOM"
S35	57	CR="KERR AB, 1997, V38, P355, MAGNET RESON MED"
S36	8	CR="KUNZ D, 1986, V3, P639, MAGN RESON MED"
S37	20	CR="LEE JKT, 1998, V170, P1457, AM J ROENTGENOL"
S38	15	CR="LEE JN, 1986, V3, P132, MAGNET RESON MED"
S39	51	CR="LEVINE D, 1996, V167, P905, AM J ROENTGENOL"
S40	93	CR="LISTERUD J, 1992, V8, P199, MAGN RESON QUART"
S41	1	CR="LOMAS DJ, 1999, P521, P 7 ANN M ISMRM PHIL"
S42	50	CR="MANSFIELD P, 1977, V10, L55 J PHYS C SOLID STA"
S43	142	CR="MANSFIELD P, 1982, V2, ADV MAGNETIC RESON S"
S44	52	CR="MAUDSLEY AA, 1980, V41, P112, J MAGN RESON"
S45	3	CR="MUHLE C, 1997, V38, P885, ACTA RADIOL"

S46 151 CR="MULKERN RV, 1990, V8, P557, MAGN RESON IMAGING"
 S47 2 CR="MULLER S, 1988, V6, P364, MAGN RESON MED"
 S48 9 CR="MURAKAMI R, 1998, V19, P959, AM J NEURORADIOL"
 S49 50 CR="NOLL DC, 1991, V10, P154, IEEE T MED IMAGING"
 S50 1 CR="OSHIO K, 1998, P1090, P 6 ANN M ISMRM SYDN"
 S51 1 CR="PLEWES DB, 1987, 29TH ANN M AM ASS PH"
 S52 101 CR="RIEDERER SJ, 1988, V8, P1, MAGNET RESON MED"
 S53 7 CR="SCHLUETER FJ, 1994, V193, P413, RADIOLOGY"
 S54 32 CR="SPIELMAN DM, 1995, V34, P388, MAGNET RESON MED"
 S55 1 CR="SZUMOWSKI J, 1987, 6TH ANN M SOC MAGN R"
 S56 36 CR="TANG Y, 1996, V167, P1497, AM J ROENTGENOL"
 S57 4 CR="TANG Y, 1998, V8, P384, JMRI-J MAGN RESON IM"
 S58 6 CR="TANG Y, 1998, V8, P438, JMRI-J MAGN RESON IM"
 S59 1 CR="TOMISATO K, 1999, P1642, P 7 ANN M ISMRM PHIL"
 S60 6 CR="TSUCHIYA K, 1996, V167, P1585, AM J ROENTGENOL"
 S61 6 CR="VINITSKI S, 1987, V34, P1110, IEEE T NUCL SCI"
 S62 1 CR="VONUIJEN CM, 1984, V1, P502, MAGNET RESON MED"
 S63 82 CR="WAUGH JS, 1970, V35, P298, J MOL SPECTROSC"
 S64 16 CR="WOOD ML, 1985, V2, P517, MAGN RESON MED"
 S65 19 CR="ZHOU XH, 1993, V3, P803, JMRI-J MAGN RESON IM"
 S66 2125 S17:S65
 S67 9 66AND7
 S68 450 66AND8
 S69 3 S68 AND ORTHOG?
 S70 16 S68 AND MAGNETIC()FIELD? ?
 S71 9 S70 AND GRADIENT??
 S72 3 S70 AND GRADIENT??(3N)FIELD? ?
 S73 8 S4 OR S11 OR S12
 S74 11 (S67 OR S69 OR S72) NOT S73

20dec01 08:02:28 User259284 Session D1538.4

74/9/8 (Item 8 from file: 34)
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

04883037 Genuine Article#: UP177 Number of References: 21
Title: MR-IMAGING AND VOLUME LOCALIZED SPECTROSCOPY - MEDICAL AND MATERIALS
APPLICATIONS

Author(s): CHANDRAKUMAR N

Corporate Source: CENT LEATHER RES INST/MADRAS 600020/TAMIL NADU/INDIA/

Journal: CURRENT SCIENCE, 1996, V70, N10 (MAY 25), P899-909

ISSN: 0011-3891

Language: ENGLISH Document Type: ARTICLE

Geographic Location: INDIA

Subfile: SciSearch; CC PHYS--Current Contents, Physical, Chemical & Earth
Sciences; CC AGRI--Current Contents, Agriculture, Biology &
Environmental Sciences

Journal Subject Category: MULTIDISCIPLINARY SCIENCES

Abstract: The principles of magnetic resonance imaging are introduced. The basis is a resonance experiment where spatial information-is built into the frequency, phase or amplitude: of processing magnetization by the: application of **magnetic field gradients** or rf **gradients**. The **field** of view, resolution and contrast of MR images are defined and the limitations on resolution are discussed. In this context, both NMR and ESR imaging are considered explicitly. The unique possibilities offered by MR image contrast are highlighted. Experimental protocols of Fourier Imaging and projection reconstruction imaging are described, in terms of the phase sensitive detection capability of the MR receiver, the trajectory of the reciprocal space vector, procedures for gradient controlled 'slice' selection, and the advantages of echo detection. Gradient and spin echo imaging, as well as chemical shift selective imaging are dealt with and the principles of multiply selective Hadamard excitation discussed, as also some novel alternatives for selective excitation. Pulse sequences for three dimensional imaging as well as four-dimensional spatial-spectral imaging are briefly introduced. Applications from our laboratory-are employed to illustrate the various methods. The special requirements of metabolite imaging are spelt out and the development and applications of multiple quantum imaging in our laboratory discussed in some detail. Volume localized spectroscopy is introduced as 'an alternative spatial-spectral procedure. The basis of single scan volume-localization is then dealt with, with reference to a specific three-pulse sequence. The development, implementation and application of two-dimensional volume localized zero quantum spectroscopy for in vivo applications is then briefly de scribed. Finally, MR imaging of solids is introduced, and an illustration of stray field imaging-from our laboratory is included. The article finally calls attention to the novel approach of magnetic resonance force microscopy as well.

Identifiers--KeyWords Plus: MAGNETIC-RESONANCE; STIMULATED ECHOES

Research Fronts: 94-0158 003 (FUNCTIONAL MAGNETIC-RESONANCE-IMAGING;
MAPPING HUMAN BRAIN ACTIVITY IN-VIVO; MR SPECTROSCOPY)

94-2335 002 (PULSED-**FIELD GRADIENT** SPIN-ECHO NMR; WATER
DIFFUSION; RAT MODEL OF BRAIN INJURY; POLYMER SURFACTANT INTERACTION;
MRI IN ACUTE CEREBRAL-ISCHEMIA)

74/9/7 (Item 7 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

05058028 Genuine Article#: TM224 Number of References: 40
Title: FAST AND ULTRAFAST MR-IMAGING - BASIC PRINCIPLES AND PULSE SEQUENCES
Author(s): STEHLING MK; NITZ W; HOLZKNECHT N
Corporate Source: UNIV MUNICH, KLINIKUM GROSSHADERN, INST RADIOLOG
DIAGNOST, MARCHIONINSTR 15/D-81366 MUNICH//GERMANY//; SIEMENS AG, BEREICH
MED TECH, MRA ABT/W-8520 ERLANGEN//GERMANY/
Journal: RADIOLOGE, 1995, V35, N12 (DEC), P879-893
ISSN: 0033-832X

Language: GERMAN Document Type: ARTICLE

Geographic Location: GERMANY

Subfile: SciSearch; CC CLIN--Current Contents, Clinical Medicine

Journal Subject Category: RADIOLOGY & NUCLEAR MEDICINE

Abstract: The aim of this article is the systematic treatment of fast and ultrafast magnetic resonance imaging (MRI) techniques. Based on the basic principles of signal generation and spatial encoding with **magnetic field gradients** the differences and important similarities of pulse sequences will be explained. We suggest to replace the conventional grouping of pulse sequences in gradient and spin-echo sequences through single and multi-echo sequences, since the latter is more precise and helpful. We illustrate how single-echo sequences such as 'spin-echo', FLASH, FISP, PSIF CISS and DESS can be derived from a single gradient echo and how multi-echo sequences such as turbo spin-echo, RARE, HASTE and GRASE are based on echo-planar imaging. The different properties, advantages and disadvantages of the various sequences will be discussed and frequently used acronyms will be explained.

Descriptors--Author Keywords: MAGNETIC RESONANCE TOMOGRAPHY ; PULSE SEQUENCES ; BASIC PRINCIPLES ; FAST IMAGING

Identifiers--KeyWords Plus: NMR

Research Fronts: 94-2335 003 (PULSED-**FIELD GRADIENT** SPIN-ECHO

NMR; WATER DIFFUSION; RAT MODEL OF BRAIN INJURY; POLYMER SURFACTANT INTERACTION; MRI IN ACUTE CEREBRAL-ISCHEMIA)

94-0158 002 (FUNCTIONAL MAGNETIC-RESONANCE-IMAGING; MAPPING HUMAN BRAIN ACTIVITY IN-VIVO; MR SPECTROSCOPY)

94-4316 001 (**FAST SPIN-ECHO**; CONTINUING SEARCH FOR THE OPTIMAL MR-IMAGING PULSE SEQUENCE(S); BRAIN IN PATIENTS)

11/9/1 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

09511886 Genuine Article#: 412TW Number of References: 22

Title: Cervical spine: Three-dimensional **fast spin-echo**
MR imaging - Improved recovery of longitudinal magnetization with
driven equilibrium pulse

Author(s): Melhem ER (REPRINT) ; Itoh R; Folkers PJM

Corporate Source: Johns Hopkins Med Inst, Dept Radiol & Radiol Sci, 600 N
Wolfe St/Baltimore//MD/21287 (REPRINT); Johns Hopkins Med Inst, Dept
Radiol & Radiol Sci, Baltimore//MD/21287; Philips Med
Syst, Best//Netherlands/

Journal: RADIOLOGY, 2001, V218, N1 (JAN), P283-288

ISSN: 0033-8419 Publication date: 20010100

Publisher: RADIOLOGICAL SOC NORTH AMER, 20TH AND NORTHAMPTON STS, EASTON,
PA 18042 USA

Language: English Document Type: ARTICLE

Geographic Location: USA; Netherlands

Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING

Descriptors--Author Keywords: magnetic resonance (MR), technology ; spinal
cord, MR ; spine, MR

11/9/2 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

08963986 Genuine Article#: 350GT Number of References: 31

Title: Interactive **fast spin-echo** imaging

Author(s): Busse RF; Riederer SJ (REPRINT) ; Fletcher JG; Bharucha AE;
Brandt KR

Corporate Source: MAYO CLIN & MAYO FDN,MR LAB, 200 1ST ST
SW/ROCHESTER//MN/55905 (REPRINT); MAYO CLIN & MAYO FDN,MR
LAB/ROCHESTER//MN/55905

Journal: MAGNETIC RESONANCE IN MEDICINE, 2000, V44, N3 (SEP), P339-348

ISSN: 0740-3194 Publication date: 20000900

Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012

Language: English Document Type: ARTICLE

Geographic Location: USA

Subfile: CC LIFE--Current Contents, Life Sciences; CC CLIN--Current
Contents, Clinical Medicine

Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING

Abstract: It is shown that a spin-echo sequence may be used to acquire
T-2-weighted, high-resolution, high-SNR sections at quasi-real-time
frame rates for interactive, diagnostic imaging. A single-shot
fast spin-echo sequence was designed which employs
driven equilibrium to realign transverse magnetization
remaining at the final spin echo. **Driven equilibrium** is
shown to improve T-2 contrast at a given TR, or conversely to reduce TR
by approximately 1000 msec and thus increase temporal resolution while
maintaining a given level of contrast. Wiener demodulation of k-space
data prior to reconstruction is shown to reduce blurring caused by
T-2-decay while constraining noise often associated with other inverse
filters. Images are continuously acquired, reconstructed, and displayed
at rates of one image every one to two seconds, while section position
and contrast may be altered interactively. The clinical utility of this
method is demonstrated with applications to dynamic pelvic floor
imaging and interactive obstetric imaging. (C) 2000 Wiley-Liss, Inc.

Descriptors--Author Keywords: real-time MRI ; **fast spin-
echo** ; **driven equilibrium** ; Wiener demodulation ;
pelvic floor ; fetal imaging

11/9/3 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

08061061 Genuine Article#: 242MG Number of References: 38
Title: MR imaging of articular cartilage using **driven**

equilibrium

Author(s): Hargreaves BA (REPRINT) ; Gold GE; Lang PK; Conolly SM; Pauly JM
; Bergman G; Vandevenne J; Nishimura DG

Corporate Source: STANFORD UNIV,DEPT ELECT ENGN, 210 PACKARD ELECT ENGN
BLDG/STANFORD//CA/94305 (REPRINT); STANFORD UNIV,DEPT
RADIOL/STANFORD//CA/94305; UNIV CALIF SAN DIEGO,DEPT RADIOL/SAN
DIEGO//CA/92103

Journal: MAGNETIC RESONANCE IN MEDICINE, 1999, V42, N4 (OCT), P695-703
ISSN: 0740-3194 Publication date: 19991000
Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012
Language: English Document Type: ARTICLE
Geographic Location: USA

Subfile: CC LIFE--Current Contents, Life Sciences; CC CLIN--Current
Contents, Clinical Medicine

Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING

Abstract: The high incidence of osteoarthritis and the recent advent of
several new surgical and non-surgical treatment approaches have
motivated the development of quantitative techniques to assess
cartilage loss. Although magnetic resonance (MR) imaging is the most
accurate non-invasive diagnostic modality for evaluating articular
cartilage, improvements in spatial resolution, signal-to-noise ratio
(SNR), and contrast-to-noise ratio (CNR) would be valuable. Cartilage
presents an imaging challenge due to its short T-2 relaxation time and
its low water content compared with surrounding materials. Current
methods sacrifice cartilage signal brightness for contrast between
cartilage and surrounding tissue such as bone, bone marrow, and joint
fluid. A new technique for imaging articular cartilage uses
driven equilibrium Fourier transform (**DEFT**), a method
of enhancing signal strength without waiting for full T-1 recovery.
Compared with other methods, **DEFT** imaging provides a good
combination of bright cartilage and high contrast between cartilage and
surrounding tissue. Both theoretical predictions and images show that
DEFT is a valuable method for imaging articular cartilage when
compared with spoiled gradient-recalled acquisition in the steady state
(**SPGR**) or **fast spin echo (FSE)**. The cartilage
SNR for **DEFT** is as high as that of either **FSE** or **SPGR**,
while the cartilage-synovial fluid CNR of **DEFT** is as much as four
times greater than that of **FSE** or **SPGR**. Implemented as a
three-dimensional sequence, **DEFT** can achieve coverage comparable
to that of other sequences in a similar scan time. Magn Reson Med
42:695-703, 1999. (C) 1999 Wiley-Liss, Inc.

Descriptors--Author Keywords: MRI ; **driven equilibrium** ;

12/9/1 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

09770805 Genuine Article#: 447FN Number of References: 13

Title: Hyperechoes

Author(s): Hennig J (REPRINT) ; Scheffler K

Corporate Source: Dept Diagnost Radiol, Sect Med Phys, Hugstetterstr
55/D-79106 Freiburg//Germany/ (REPRINT); Dept Diagnost Radiol, Sect Med
Phys, D-79106 Freiburg//Germany/

Journal: MAGNETIC RESONANCE IN MEDICINE, 2001, V46, N1 (JUL), P6-12

ISSN: 0740-3194 Publication date: 20010700

Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012
USA

Language: English Document Type: ARTICLE

Geographic Location: Germany

Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING

Abstract: A novel spin-echo-based refocusing strategy called a hyperecho mechanism is introduced by which the full coherence of magnetization submitted to a sequence of arbitrary RF pulses can be reinstalled. First implementations illustrate the potential of hyperecho formation- especially for Rapid Acquisition with Relaxation Enhancement (RARE) imaging, in which the full image intensify can be retrieved using a fraction of the RF power of a fully refocused sequence, The contribution of stimulated echo pathways to the hyperecho signal leads to an increased signal intensity at a given refocusing time for tissues with $T_1 > T_2$. For identical T_2 contrast, longer echo times have to be used. Further possibilities for using hyperechoes in gradient-echo sequences and for spin selection are discussed. (C) 2001 Wiley-Liss, Inc.

Descriptors--Author Keywords: hyperecho ; spin echo ; RARE ; DEFT

Identifiers--KeyWord Plus(R): REFOCUSING FLIP ANGLES; RARE-SEQUENCES;
SENSITIVITY

Cited References:

74/9/2 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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08220787 Genuine Article#: 259JD Number of References: 20
Title: T1- and T2-weighted imaging at 8 tesla
Author(s): Kangarlu A; Abduljalil AM; Robitaille PML (REPRINT)
Corporate Source: OHIO STATE UNIV,MRI FACIL, DEPT RADIOL, CTR ADV BIOMED
IMAGING, 1630 UPHAM DR/COLUMBUS//OH/43210 (REPRINT); OHIO STATE
UNIV,MRI FACIL, DEPT RADIOL, CTR ADV BIOMED IMAGING/COLUMBUS//OH/43210
Journal: JOURNAL OF COMPUTER ASSISTED TOMOGRAPHY, 1999, V23, N6 (NOV-DEC)
, P875-878
ISSN: 0363-8715 Publication date: 19991100
Publisher: LIPPINCOTT WILLIAMS & WILKINS, 227 EAST WASHINGTON SQ,
PHILADELPHIA, PA 19106
Language: English Document Type: ARTICLE
Geographic Location: USA
Subfile: CC LIFE--Current Contents, Life Sciences; CC CLIN--Current
Contents, Clinical Medicine
Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING
Abstract: In this work, both T1- and T2-weighted fast imaging methods at 8
T are presented. These include the modified **driven
equilibrium** Fourier transform (MDEFT) and rapid acquisition with
relaxation enhancement (RARE) methods, respectively. Axial MDEFT images
were acquired with large nutation angles, both partially suppressing
gray and white matter and permitting the visualization of vascular
structures rich in unsaturated spins. Sagittal RARE images, acquired
from the same volunteer, were highly T2-weighted, thus highlighting the
CSF. At the same time, they provided good visualization of the corpus
callosum, cerebellum, and gray and white matter structures.
Importantly, both MDEFT and RARE images could be acquired without
violating specific absorption rate guidelines.
Descriptors--Author Keywords: magnetic resonance imaging, techniques ; fast
spin echo ; brain
Identifiers--KeyWord Plus(R): SPECTROSCOPY; BODY

74/9/3 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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06537197 Genuine Article#: YZ730 Number of References: 4
Title: Signal-to-noise enhancement when T-2 not equal T-1, a new
investigation of the pulse sequence **DEFT**
Author(s): Carlotti C (REPRINT) ; Taulelle F; Aubay E
Corporate Source: UNIV STRASBOURG 1,CNRS, UMR 50, 4 RUE BLAISE
PASCAL/F-67070 STRASBOURG//FRANCE/ (REPRINT); RHONE POULENC CHIM,CTR
RECH AUBERVILLIERS/F-93300 AUBERVILLIERS//FRANCE/
Journal: JOURNAL DE CHIMIE PHYSIQUE ET DE PHYSICO-CHIMIE BIOLOGIQUE, 1998
, V95, N2 (FEB), P208-215
ISSN: 0021-7689 Publication date: 19980200
Publisher: EDITIONS SCIENTIFIQUES MEDICALES ELSEVIER, 141 RUE JAVEL, 75747
PARIS, FRANCE
Language: English Document Type: ARTICLE
Geographic Location: FRANCE
Subfile: CC PHYS--Current Contents, Physical, Chemical & Earth Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; CHEMISTRY,
PHYSICAL ,
Abstract: Very long experimental times are necessary in order to obtain NMR
spectra when the observed nuclei present important spin-lattice
relaxation times. **DEFT** sequence allows for reduction of
acquisition time though increasing the signal to noise ratio. An
analytical approach is proposed for which optimal conditions of usage
has been defined for the special case of $T-2 \ll T-1$. To obtain full
maximization it is necessary to use linear prediction. At last a 2D
exchange experiment using **DEFT** is presented.
Descriptors--Author Keywords: **DEFT** ; signal-to-noise enhancement ;
relaxation

74/9/4 (Item 4 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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06335517 Genuine Article#: YJ661 Number of References: 15
Title: MR-guided biopsies with an ultrafast high-resolution T-2-weighted
turbo spin echo sequence 'LoLo': First clinical results
Author(s): Bucker A (REPRINT) ; Adam G; Neuerburg JM; Glowinski A; vanVaals
JJ; Gunther RW
Corporate Source: RHEIN WESTFAL TH AACHEN,RADIOL DIAGNOST KLIN, FAK MED,
PAUWELSSTR 30/D-52074 AACHEN//GERMANY/ (REPRINT); PHILIPS MED
SYST,/BEST//NETHERLANDS/
Journal: ROFO-FORTSCHRITTE AUF DEM GEBIET DER RONTGENSTRAHLEN UND DER
BILDGEBENDEN VERFAHREN, 1997, V167, N5 (NOV), P491-495
ISSN: 0936-6652 Publication date: 19971100
Publisher: GEORG THIEME VERLAG, P O BOX 30 11 20, D-70451 STUTTGART,
GERMANY
Language: German Document Type: ARTICLE
Geographic Location: GERMANY; NETHERLANDS
Subfile: CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING
Abstract: Purpose: The feasibility of the 'LoLo'-technique for MR
guidance of biopsy procedures was tested. Material and Methods:
MR-guided biopsies were performed on 10 patients employing a 1.5 T
system, The 'LoLo'-technique used is a single shot turbo spin echo
technique. Only a small field of view is covered in order to yield
images with a resolution of 1 mm(2) in 600 ms. The **orthogonal**
orientation of the slice selective radio frequency pulses to each other
prevents foldover artifacts. Results: No complications occurred. All
biopsy procedures yielded sufficient material to diagnose the
underlying disease. The 'LoLo'-technique enabled good depiction of
the needle tip in all cases. T-2-weighted contrast typical for turbo
spin echo images was observed. No foldover artifacts were detectable.
Conclusion: MR-guided biopsies are possible with the
'LoLo'-technique. Compared to gradient echo sequences T-2-weighting
and smaller susceptibility artifacts proved to be advantageous.
Descriptors--Author Keywords: interventions, MR-guided ; biopsies ; local
look-technique (LoLo) ; MRI
Identifiers--KeyWord Plus(R): ASPIRATION CYTOLOGY; NEEDLE; HEAD; NECK;
LESIONS
Research Fronts: 95-1616 001 (FAST SPIN-ECHO IMAGING;

74/9/5 (Item 5 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

06306901 Genuine Article#: YH250 Number of References: 21
Title: Non-Fourier encoding with multiple spin echoes
Author(s): Panych LP (REPRINT) ; Mulkern RV; Saiviroonporn P; Zientara GP;
Jolesz FA
Corporate Source: HARVARD UNIV,BRIGHAM & WOMENS HOSP, SCH MED, DEPT RADIOL,
75 FRANCIS ST/BOSTON//MA/02115 (REPRINT); CHILDRENS HOSP,DEPT
RADIOL/BOSTON//MA/02115; BOSTON UNIV,DEPT BIOMED ENGN/BOSTON//MA/02215
Journal: MAGNETIC RESONANCE IN MEDICINE, 1997, V38, N6 (DEC), P964-973
ISSN: 0740-3194 Publication date: 19971200
Publisher: WILLIAMS & WILKINS, 351 WEST CAMDEN ST, BALTIMORE, MD 21201-2436
Language: English Document Type: ARTICLE
Geographic Location: USA
Subfile: CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING
Abstract: The advantages and limitations of multiple spin-echo sequences
for non-fourier encoding are investigated, Complications caused by
improper encoding of alternate magnetization pathways due to imperfect
refocusing pulses are analyzed, It is shown that mirror image ghosts
result if the encoding RF pulse matrix is real-valued, These ghosts can
be avoided as long as the rows of the RF pulse matrix are conjugate
symmetric, which implies that spatial profiles are real valued,
Non-Fourier encoding using bases derived from wavelet, Hadamard, and
other real-valued **orthogonal** functions does not result in a
mirror ghost artifact, A RARE sequence for non-fourier encoding has
been implemented on a clinical imaging system and successfully applied
for brain imaging.
Descriptors--Author Keywords: magnetic resonance image encoding ;
non-Fourier encoded MRI ; spatially selective RF excitation
Identifiers--KeyWord Plus(R): MRI; SEQUENCES; IMPLEMENTATION; EXCITATION;
2D

74/9/6 (Item 6 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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06164115 Genuine Article#: XY937 Number of References: 21
Title: Simultaneous acquisition of spatial harmonics (SMASH): Fast imaging
with radiofrequency coil arrays
Author(s): Sodickson DK (REPRINT) ; Manning WJ
Corporate Source: BETH ISRAEL DEACONESS MED CTR,DIV CARDIOVASC, DEPT MED,
HARVARD THORNDIKE LAB, 330 BROOKLINE AVE/BOSTON//MA/02215 (REPRINT);
CHARLES A DANA RES INST,/BOSTON//MA/02215; BETH ISRAEL DEACONESS MED
CTR,DEPT RADIOL/BOSTON//MA/; HARVARD UNIV,SCH MED/BOSTON//MA/
Journal: MAGNETIC RESONANCE IN MEDICINE, 1997, V38, N4 (OCT), P591-603
ISSN: 0740-3194 Publication date: 19971000
Publisher: WILLIAMS & WILKINS, 351 WEST CAMDEN ST, BALTIMORE, MD 21201-2436
Language: English Document Type: ARTICLE
Geographic Location: USA
Subfile: CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING
Abstract: SiMultaneous Acquisition of Spatial Harmonics (SMASH) is a new
fast-imaging technique that increases MR image acquisition speed by an
integer factor over existing fast-imaging methods, without significant
sacrifices in spatial resolution or signal-to-noise ratio. Image
acquisition time is reduced by exploiting spatial information inherent
in the geometry of a surface coil array to substitute for some of the
phase encoding usually produced by **magnetic field**
gradients. This allows for partially parallel image acquisitions
using many of the existing fast-imaging sequences. Unlike the data
combination algorithms of prior proposals for parallel imaging, SMASH
reconstruction involves a small set of MR signal combinations prior to
Fourier transformation, which can be advantageous for artifact handling
and practical implementation. A twofold savings in image acquisition
time is demonstrated here using commercial phased array coils on two
different MR-imaging systems. Larger time savings factors can be
expected for appropriate coil designs.
Descriptors--Author Keywords: fast imaging ; RF coil array ; simultaneous
acquisition ; MR image reconstruction
Identifiers--KeyWord Plus(R): PHASED-ARRAY; INTENSITY-CORRECTION; MULTIPLE
DETECTORS; MRI DATA; RESONANCE
Research Fronts: 95-6693 002 (PHASED-ARRAY COIL; MR CARDIAC IMAGING;
RESPIRATORY FEEDBACK MONITOR; FEMALE PELVIS)
95-1616 001 (**FAST SPIN-ECHO** IMAGING; T2-WEIGHTED
IMAGES; INVERSION-RECOVERY FAT SIGNAL SUPPRESSION; MR SEQUENCES)

74/9/10 (Item 10 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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03572937 Genuine Article#: PN575 Number of References: 9
Title: A NEW T-2 PREPARATION TECHNIQUE FOR ULTRAFAST GRADIENT-ECHO SEQUENCE
Author(s): PARRISH T; HU XP
Corporate Source: UMHC, DEPT RADIOL, BOX 292, 420 DELAWARE ST
SE/MINNEAPOLIS//MN/55455; UMHC, DEPT RADIOL/MINNEAPOLIS//MN/55455; UNIV
MINNESOTA, CTR MAGNET RESONANCE RES/MINNEAPOLIS//MN/00000
Journal: MAGNETIC RESONANCE IN MEDICINE, 1994, V32, N5 (NOV), P652-657
ISSN: 0740-3194
Language: ENGLISH Document Type: NOTE
Geographic Location: USA
Subfile: SciSearch; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: RADIOLOGY & NUCLEAR MEDICINE
Abstract: The T-2 contrast in images obtained with **driven
equilibrium** (90(x) degrees-180(x) degrees-90(x) degrees) prepared
ultrafast gradient-echo sequences is compromised by the longitudinal
magnetization build-up after the second 90(x) degrees pulse, which does
not carry T-2 information. This paper describes a new T-2 contrast
preparation technique for ultrafast gradient-echo sequence that
suppresses the signal arising from the build-up. By dephasing in the
preparation and rephasing in the acquisition of the gradient echoes,
the new technique eliminates signals that are not dictated by the T-2
contrast in a **driven-equilibrium** approach. Consequently, it
generates an image that is essentially T-2-weighted. Phantom and in
vivo experiments were conducted to validate the technique and to
demonstrate its clinical utility. These studies indicate that the
technique works properly and can be used for in vivo studies.
Descriptors--Author Keywords: ULTRAFAST GRADIENT-ECHO IMAGING ; T-2
WEIGHTING ; MAGNETIZATION PREPARATION